I573-946
(2 sets of maps)

(Sep) I 49.89/2:85 (15) map A1

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF FLORIDA

CLEARWATER QUADRANGLE
FLORIDA – PINELLAS CO
7.5 MINUTE SERIES (TOPOGRAPHIC)

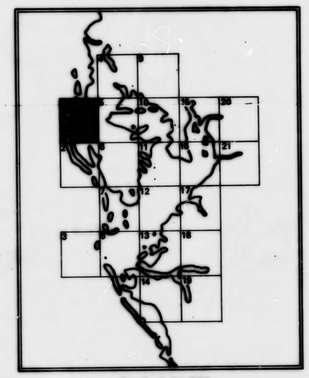
MAP A1

Biological report 85(15)
Per Agency

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

CLEARWATER



Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

- Oys-1 — Public Oyster Bed
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FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH / CATEGORY / Common Name	SPAWNING LOCATION*	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA*	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	AREA OF ADULT ABUNDANCE*	MAJOR ADULT HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE*
	ESTUARINE DEPENDENT FISHES							
1	Red Drum	C		E	● ● ●	E	● ● ●	2
7	Spotted Seatrout	E		E	● ● ●	E	● ● ●	2
3	Snook	C		C	● ● ●	E	● ● ●	2
4	Sheepshead	C		C	● ● ●	C-E	● ● ●	1
5	Southern Flounder	C		C-E	● ● ●	C-E	● ● ●	2
6	Florida Pompano	CS		C-E	● ● ●	C-E	● ● ●	3
7	Striped Mullet	CS		E	● ● ●	E	● ● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E	● ● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E	● ● ●	3
10	Black Drum	C		E	● ● ●	E	● ● ●	1
	REEF FISHES							
11	Red Grouper	CS		CS-C	● ● ●	CS	● ● ●	2
12	Jewfish	CS		CS-C	● ● ●	CS-C	● ● ●	2
13	Gag Grouper	CS		CS-C	● ● ●	CS-C	● ● ●	2
14	Scamp	CS		CS	● ● ●	CS	● ● ●	2
15	Red Snapper	CS		CS-C	● ● ●	CS-C	● ● ●	2
16	Mangrove Snapper	CS		C-E	● ● ●	C-E	● ● ●	2
	COASTAL PELAGIC FISHES							
17	King Mackerel	OCS		CS	● ● ●	CS-C	● ● ●	4
18	Spanish Mackerel	CS		CS	● ● ●	CS-C	● ● ●	4

*KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

*MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
- SEAGRASS BEDS
- ARTIFICAL REEF* (Permitted by Florida Dept. of Environmental Regulation) Numbers next to reefs refer to composition data in narrative

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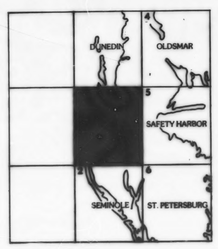

THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC. TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

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Selected areas on this U.S.G.S. base map received some information extracted from aerial photography. This information not field checked.

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FOR COMPLETE REFERENCE SEE MAP NARRATIVE

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I 49.89/2:85(15)map1

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF FLORIDA

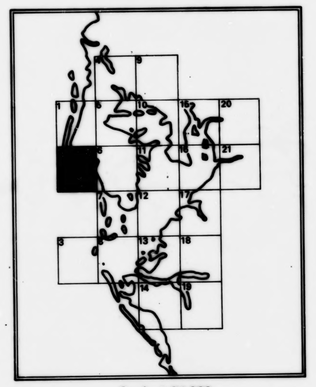
SEMINOLE QUADRANGLE
FLORIDA – PINELLAS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A2

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

SEMINOLE



Scale 1:24,000

1984

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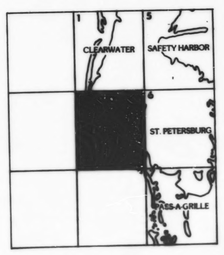

LEGEND

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FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION¹	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA¹	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Open Water	MAJOR ADULT HABITATS: AREA OF ADULT ABUNDANCE¹, Seagrass, Mangrove, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE²
	ESTUARINE DEPENDENT FISHES						
1	Red Drum	C		E	● ● ●	E ● ●	2
2	Spotted Seatrout	E		E	● ● ●	E ● ●	2
3	Snook	C		E	● ● ●	E ● ●	2
4	Sheepshead	C		C	●	C-E ● ● ●	1
5	Southern Flounder	C		C-E	● ●	C-E ● ● ●	2
6	Florida Pompano	CS		C-E	● ●	C-E ● ● ●	3
7	Striped Mullet	CS		E	● ● ●	E ● ● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E ● ● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E ● ● ●	3
10	Black Drum	C		E	● ● ●	E ● ● ●	1
	REEF FISHES						
11	Red Grouper	CS		CS-C	● ● ●	CS ● ● ●	2
12	Jewfish	CS		CS-C	● ● ●	CS-C ● ● ●	2
13	Gag Grouper	CS		CS-C	● ● ●	CS-C ● ● ●	2
14	Scamp	CS		CS	● ● ●	CS ● ● ●	2
15	Red Snapper	CS		CS-C	● ● ●	CS-C ● ● ●	2
16	Mangrove Snapper	CS		C-E	● ● ●	C-E ● ● ●	2
	COASTAL PELAGIC FISHES						
17	King Mackerel	OCS		CS	●	CS-C ● ● ●	4
18	Spanish Mackerel	CS		CS	●	CS-C ● ● ●	4

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WEST INDIAN MANATEE HABITAT

STATE MANATEE SANCTUARY

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UNITED STATES
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STATE OF FLORIDA

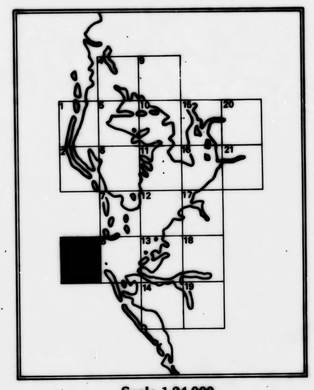
EGMONT KEY QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A3

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

EGMONT KEY



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1984

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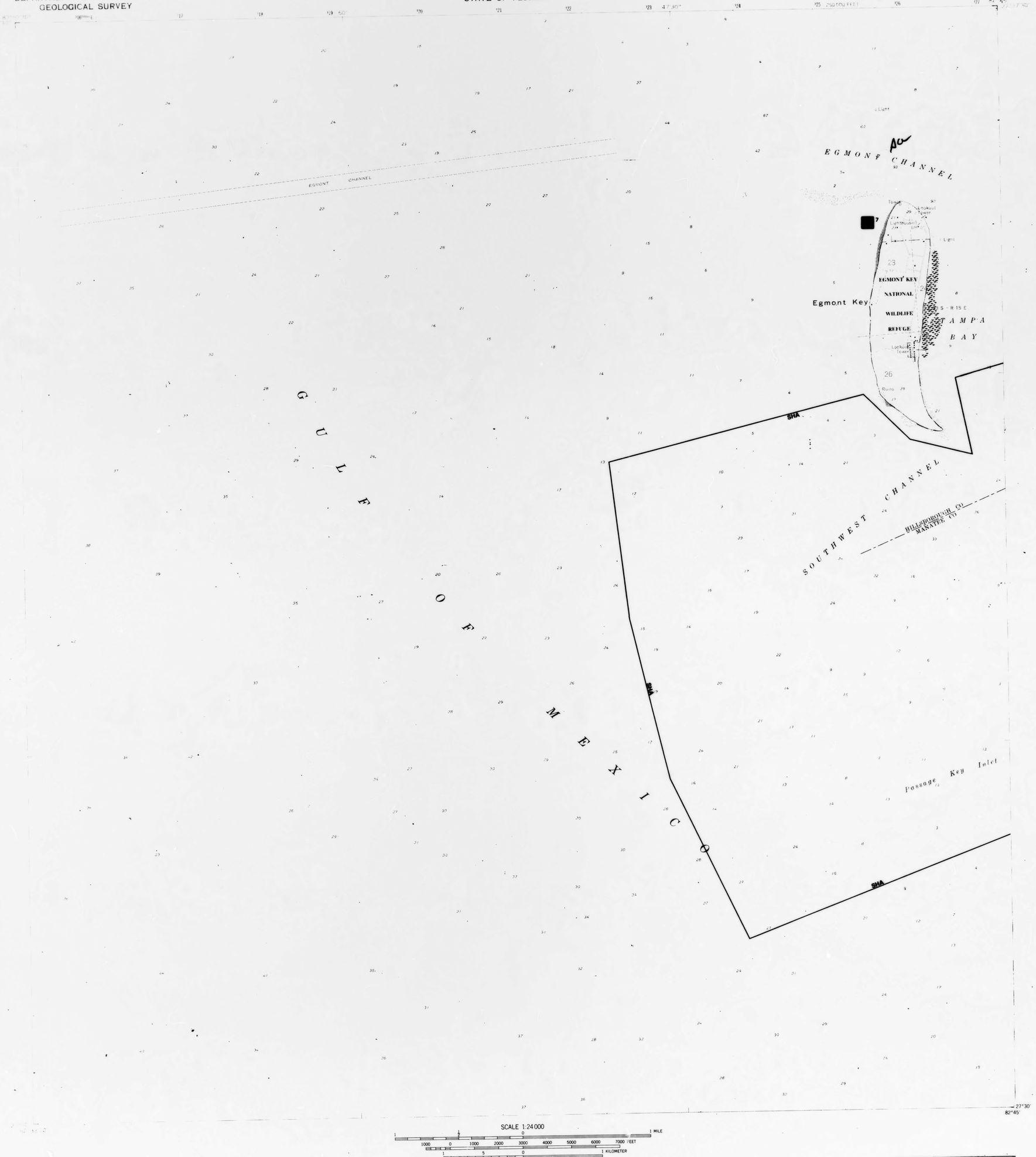

SCALE 1:24 000

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1 KILOMETER 1 0 1

LEGEND

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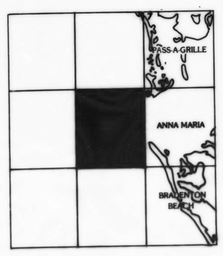

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I 49.89/2:85(15)map A4

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OLDSMAR QUADRANGLE
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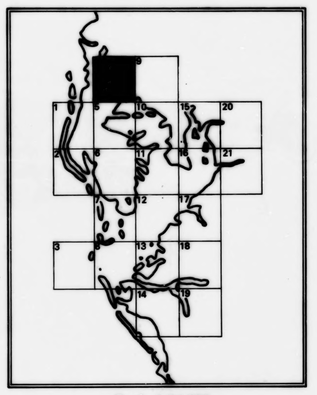
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A4

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

OLDSMAR



Scale 1:24,000

1984

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LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

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- Oys-1 — Public Oyster Bed
- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON	NURSERY AREA[1]	MAJOR NURSERY HABITATS: Seagrass	Marsh	Saltmarsh	Beach	Coral Reef	Artificial Reef	Open Water	AREA OF ADULT ABUNDANCE[2]	MAJOR ADULT HABITATS: Seagrass	Beach	Coral Reef	Artificial Reef	Open Water	MIGRATION TYPE[3]
	ESTUARINE DEPENDENT FISHES																	
1	Red Drum	C		E	●	●	●					E	●	●	●			2
2	Spotted Seatrout	E		E	●	●	●					E	●	●	●			2
3	Snook	E		E	●	●	●					E	●	●	●			2
4	Sheepshead	C		C								C-E	●		●		●	1
5	Southern Flounder	C		C-E	●			●				C-E	●		●			2
6	Florida Pompano	CS		C-E				●				C-E			●		●	3
7	Striped Mullet	CS		E	●	●	●					E	●	●	●			3
8	Gulf Menhaden	C		E	●	●	●					C-E	●		●		●	3
9	Spanish Sardine	C		E	●	●	●					C-E	●		●		●	3
10	Black Drum	C		E	●	●	●					E	●	●	●			1
	REEF FISHES																	
11	Red Grouper	CS		CS-C					●	●		CS			●	●		2
12	Jewfish	CS		CS-C					●	●		CS-C			●	●		2
13	Gag Grouper	CS		CS-C					●	●		CS-C			●	●		2
14	Scamp	CS		CS					●	●		CS			●	●		2
15	Red Snapper	CS		CS-C					●	●		CS-C			●	●		2
16	Mangrove Snapper	CS		C-E	●	●						C-E	●		●	●		2
	COASTAL PELAGIC FISHES																	
17	King Mackerel	OCS		CS								CS-C				●	●	4
18	Spanish Mackerel	CS		CS								CS-C				●	●	4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[3]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican
- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
- SEAGRASS BEDS
- ARTIFICAL REEF* (Permitted by Florida Dept. of Environmental Regulation)
  Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER

THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC. TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

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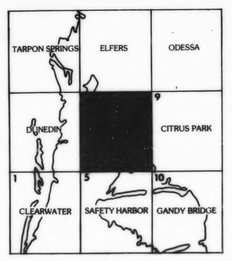
FOR COMPLETE REFERENCE SEE MAP NARRATIVE



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I49.89/2:85(15)map A5

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

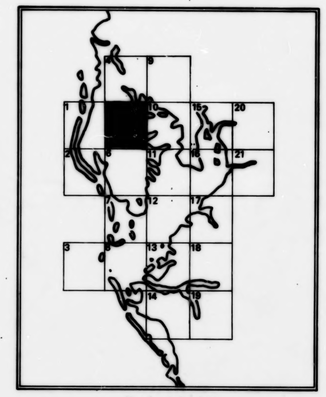
SAFETY HARBOR QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A5

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

SAFETY HARBOR



Scale 1:24,000

1984

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FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH / CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA[1]	MAJOR NURSERY HABITATS: Seagrass	Mangrove	Saltmarsh	Beach	Coral Reef	Open Water	AREA OF ADULT ABUNDANCE[1]	MAJOR ADULT HABITATS: Seagrass	Mangrove	Beach	Coral Reef	Open Water	MIGRATION TYPE[2]
	ESTUARINE DEPENDENT FISHES																
1	Red Drum	C		E	●	●	●				E	●	●				2
2	Spotted Seatrout	E		E	●	●	●				E	●	●				2
3	Snook	C		E	●	●	●				E	●	●				2
4	Sheepshead	C		C	●						C-E			●	●		1
5	Southern Flounder	C		C-E	●			●			C-E	●		●			2
6	Florida Pompano	CS		C-E				●			C-E			●		●	3
7	Striped Mullet	CS		E	●	●	●				E	●	●	●			3
8	Gulf Menhaden	C		E	●	●	●				C-E	●	●			●	3
9	Spanish Sardine	C		E	●	●	●				C-E	●	●			●	3
10	Black Drum	C		E	●	●	●				E	●	●	●			1
	REEF FISHES																
11	Red Grouper	CS		CS-C	●				●	●	CS				●	●	2
12	Jewfish	CS		CS-C	●				●	●	CS-C				●	●	2
13	Gag Grouper	CS		CS-C	●				●	●	CS-C				●	●	2
14	Scamp	CS		CS	●				●	●	CS				●	●	2
15	Red Snapper	CS		CS-C	●				●	●	CS-C				●	●	2
16	Mangrove Snapper	CS		C-E	●	●					C-E				●	●	2
	COASTAL PELAGIC FISHES																
17	King Mackerel	OCS		CS						●	CS-C				●	●	4
18	Spanish Mackerel	CS		CS						●	CS-C				●	●	4

[1]KEY:
E — Estuarine
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CS — Continental Shelf
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1 — Residentially Restricted
2 — Random Residential Range
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- Shorebird
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1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
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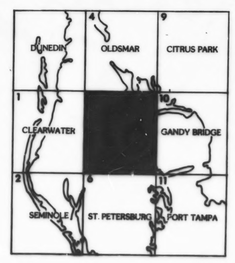

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L 49.89/2:80 (15) map A6

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

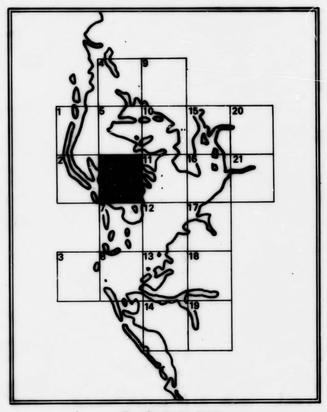
ST. PETERSBURG QUADRANGLE
FLORIDA—PINELLAS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A6

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

ST. PETERSBURG



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1984

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1	Red Drum	C		E	●	●	●					E	●	●	●				2
2	Spotted Seatrout	E		E	●	●	●					E	●	●	●				2
3	Snook	C		E	●	●	●					E	●	●	●				2
4	Sheepshead	C		C	●							C-E				●		●	1
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7	Striped Mullet	CS		E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C		E	●	●	●					C-E	●		●				3
9	Spanish Sardine	C		E	●	●	●					C-E	●		●				3
10	Black Drum	C		E	●	●	●					E	●	●	●				1
	REEF FISHES																		
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13	Gag Grouper	CS		CS-C					●	●		CS-C				●	●		2
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STATE MANATEE SANCTUARY

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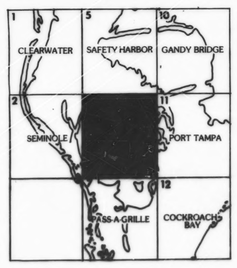

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UNITED STATES
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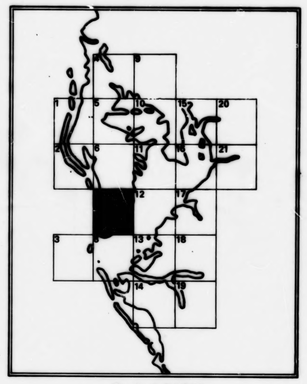
PASS-A-GRILLE BEACH QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A7

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

PASS-A-GRILLE



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5	Southern Flounder	C		C-E	●				●		C-E	●		●				2
6	Florida Pompano	CS		C-E					●		C-E			●			●	3
7	Striped Mullet	CS		E	●	●	●				E	●	●	●				3
8	Gulf Menhaden	C		E	●	●	●				C-E	●		●			●	3
9	Spanish Sardine	C		E	●	●	●				C-E	●		●			●	3
10	Black Drum	C		E	●	●	●				E	●	●	●				1
	REEF FISHES																	
11	Red Grouper	CS		CS-C	●				●	●	CS					●	●	2
12	Jewfish	CS		CS-C	●				●	●	CS-C					●	●	2
13	Gag Grouper	CS		CS-C	●				●	●	CS-C					●	●	2
14	Scamp	CS		CS	●				●	●	CS					●	●	2
15	Red Snapper	CS		CS-C	●				●	●	CS-C					●	●	2
16	Mangrove Snapper	CS		C-E	●	●					C-E					●	●	2
	COASTAL PELAGIC FISHES																	
17	King Mackerel	OCS		CS							CS-C					●	●	4
18	Spanish Mackerel	CS		CS							CS-C					●	●	4

*KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

*MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
- SEAGRASS BEDS
- ARTIFICAL REEF* (Permitted by Florida Dept. of Environmental Regulation)
  Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

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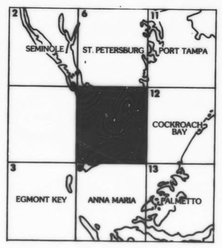
FOR COMPLETE REFERENCE SEE MAP NARRATIVE



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I 49.89/2:85(15) map A8

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF FLORIDA

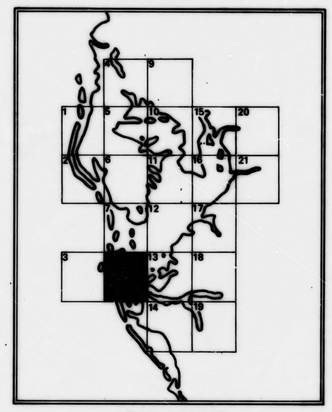
ANNA MARIA QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A8

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

ANNA MARIA



Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:
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B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

- Oys-1 — Public Oyster Bed
- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J S O N D	NURSERY AREA[1]	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	AREA OF ADULT ABUNDANCE[1]	MAJOR ADULT HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE[2]
	ESTUARINE DEPENDENT FISHES							
1	Red Drum	C		E	● ● ●	E	● ● ●	2
2	Spotted Seatrout	E		E	● ● ●	E	● ●	2
3	Snook	C		E	● ● ●	E	● ●	2
4	Sheepshead	C		C	●	C-E	● ●	1
5	Southern Flounder	C		C-E	● ●	C-E	● ●	2
6	Florida Pompano	CS		C-E	●	C-E	● ●	3
7	Striped Mullet	CS		E	● ● ●	E	● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E	● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E	● ●	3
10	Black Drum	C		E	● ● ●	E	● ● ●	1
	REEF FISHES							
11	Red Grouper	CS		C	● ●	CS	● ●	2
12	Jewfish	CS		CS-C	● ●	CS-C	● ●	2
13	Gag Grouper	CS		CS-C	● ●	CS-C	● ●	2
14	Scamp	CS		CS	● ●	CS	● ●	2
15	Red Snapper	CS		CS-C	● ●	CS-C	● ●	2
16	Mangrove Snapper	CS		C-E	● ●	C-E	● ●	2
	COASTAL PELAGIC FISHES							
17	King Mackerel	OCS		CS		CS-C	● ●	4
18	Spanish Mackerel	CS		CS		CS-C	● ●	4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[2]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

WEST INDIAN MANATEE HABITAT

STATE MANATEE SANCTUARY

SEAGRASS BEDS

ARTIFICAL REEF*
(Permitted by Florida Dept. of Environmental Regulation)
Numbers next to reefs refer to composition data in narrative

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SCALE 1:24000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

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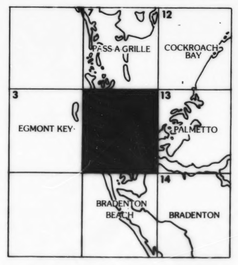

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I 49.89/2: 85(15) map A9

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

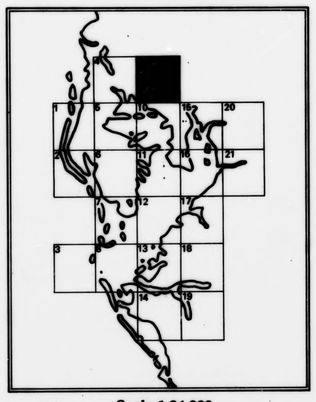
CITRUS PARK QUADRANGLE
FLORIDA – HILLSBOROUGH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A9

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

CITRUS PARK



Scale 1:24,000

1984

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Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

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(Florida Dept. of Natural Resources)

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NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

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- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J J A S O N D	MAJOR NURSERY HABITATS: NURSERY AREA[1]	Seagrass	Mangrove	Saltmarsh	Beach	Coral Reef	Artificial Reef	Open Water	MAJOR ADULT HABITATS: AREA OF ADULT ABUNDANCE[1]	Seagrass	Mangrove	Beach	Coral Reef	Artificial Reef	Open Water	MIGRATION TYPE[2]
	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C		E	●	●	●					E	●	●	●				2
2	Spotted Seatrout	E		E	●	●	●					E	●	●	●				2
3	Snook	C		E	●	●	●					E	●	●	●				2
4	Sheepshead	C		C								C-E			●		●		1
5	Southern Flounder	C		C-E	●				●			C-E	●		●				2
6	Florida Pompano	CS		C-E					●			C-E			●			●	3
7	Striped Mullet	CS		E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C		E	●	●	●					C-E	●		●			●	3
9	Spanish Sardine	C		E	●	●	●					C-E	●	●	●			●	3
10	Black Drum	C		E	●	●	●					E	●	●	●				1
	REEF FISHES																		
11	Red Grouper	CS		CS-C	●							CS			●	●			2
12	Jewfish	CS		CS-C	●							CS-C			●	●			2
13	Gag Grouper	CS		CS-C	●							CS-C			●	●			2
14	Scamp	CS		CS	●							CS			●	●			2
15	Red Snapper	CS		CS-C	●							CS-C			●	●			2
16	Mangrove Snapper	CS		C-E	●	●						C-E				●			2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS		CS								CS-C				●	●		4
18	Spanish Mackerel	CS		CS								CS-C				●	●		4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[2]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican
- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
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1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER

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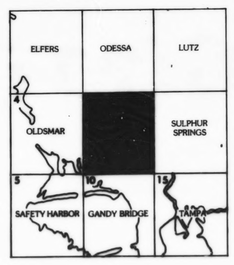

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149.89/2:85 (10) map A10

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

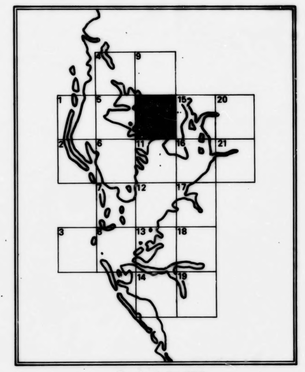
GANDY BRIDGE QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A10

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

GANDY BRIDGE



Scale 1:24,000

1984

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	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C		E	●	●	●					E	●	●					2
2	Spotted Seatrout	E		E	●	●	●					E	●	●					2
3	Snook	C		E	●	●	●					E	●	●					2
4	Sheepshead	C		C	●							C-E			●			●	1
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6	Florida Pompano	CS		C-E						●		C-E						●	3
7	Striped Mullet	CS		E	●	●	●					E	●	●					3
8	Gulf Menhaden	C		E	●	●	●					C-E	●					●	3
9	Spanish Sardine	C		E	●	●	●					C-E	●					●	3
10	Black Drum	C		E	●	●	●					E	●	●					1
	REEF FISHES																		
11	Red Grouper	CS		CS-C	●					●	●	CS					●	●	2
12	Jewfish	CS		CS-C	●					●	●	CS-C					●	●	2
13	Gag Grouper	CS		CS-C	●					●	●	CS-C					●	●	2
14	Scamp	CS		CS	●					●	●	CS					●	●	2
15	Red Snapper	CS		CS-C	●					●	●	CS-C					●	●	2
16	Mangrove Snapper	CS		C-E	●	●						C-E					●	●	2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS		CS								CS-C					●	●	4
18	Spanish Mackerel	CS		CS								CS-C					●	●	4

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SCALE 1:24000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

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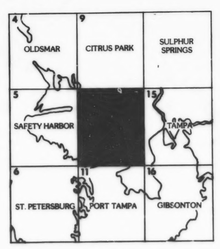
FOR COMPLETE REFERENCE SEE MAP NARRATIVE



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I 49.89/2:85(12)/map A11

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

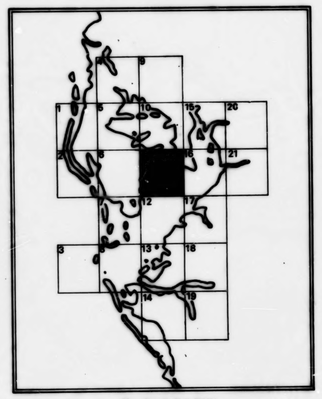
PORT TAMPA QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A11

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

PORT TAMPA



Scale 1:24,000

1984

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B. WATER RESOURCES

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Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

- Oys-1 — Public Oyster Bed
- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA*	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	ADULT HABITAT AREA*	MAJOR ADULT HABITATS: Seagrass, Mangrove, Beach, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE*
	ESTUARINE DEPENDENT FISHES							
1	Red Drum	C		E	● ● ●	E	● ● ●	2
2	Spotted Seatrout	E		E	● ● ●	E	● ●	2
3	Snook	C		E	● ● ●	E	● ●	2
4	Sheepshead	C		C	●	C-E	● ● ●	1
5	Southern Flounder	C		C-E	● ● ●	C-E	● ● ●	2
6	Florida Pompano	CS		C-E	● ●	C-E	● ●	3
7	Striped Mullet	CS		E	● ● ●	E	● ● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E	● ● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E	● ● ●	3
10	Black Drum	C		E	● ● ●	E	● ● ●	1
	REEF FISHES							
11	Red Grouper	CS		CS-C	● ●	CS	● ●	2
12	Jewfish	CS		CS-C	● ●	CS-C	● ●	2
13	Gag Grouper	CS		CS-C	● ●	CS-C	● ●	2
14	Scamp	CS		CS	● ●	CS	● ●	2
15	Red Snapper	CS		CS-C	● ●	CS-C	● ●	2
16	Mangrove Snapper	CS		C-E	● ●	C-E	● ●	2
	COASTAL PELAGIC FISHES							
17	King Mackerel	OCS		CS		CS-C	● ● ●	4
18	Spanish Mackerel	CS		CS		CS-C	● ● ●	4

*KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

*MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican
- WEST INDIAN MANATEE HABITAT
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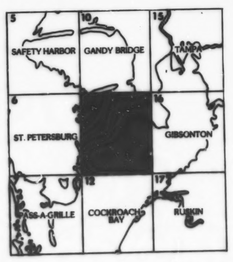

SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 MILE
1 5 0 1 KILOMETER

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Selected areas on this U.S.G.S. base map updated using information extracted from aerial photography. This information not field checked.

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FOR COMPLETE REFERENCE SEE MAP NARRATIVE

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I 49.89/2:85(15) map A12

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

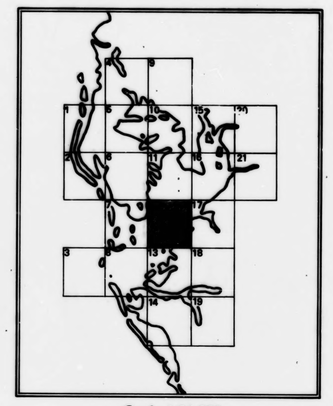
COCKROACH BAY QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A12

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

COCKROACH BAY



Scale 1:24,000

1984

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(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA[1]	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Artificial Reef, Open Water	AREA OF ADULT ABUNDANCE[1]	MAJOR ADULT HABITATS: Seagrass, Mangrove, Beach, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE[2]
	ESTUARINE DEPENDENT FISHES							
1	Red Drum	C		E	● ● ●	E	● ● ●	2
2	Spotted Seatrout	E		E	● ● ●	E	● ●	2
3	Snook	C		E	● ● ●	E	● ●	2
4	Sheepshead	C		C	●	C-E	● ●	1
5	Southern Flounder	C		C-E	● ●	C-E	● ●	2
6	Florida Pompano	CS		C-E	● ●	C-E	● ●	3
7	Striped Mullet	CS		E	● ● ●	E	● ● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E	● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E	● ●	3
10	Black Drum	C		E	● ● ●	E	● ● ●	1
	REEF FISHES							
11	Red Grouper	CS		CS-C	● ● ●	CS	● ●	2
12	Jewfish	CS		CS-C	● ● ●	CS-C	● ●	2
13	Gag Grouper	CS		CS-C	● ● ●	CS-C	● ●	2
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18	Spanish Mackerel	CS		CS	●	CS-C	● ● ●	4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[2]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
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4 — Extensive Migration

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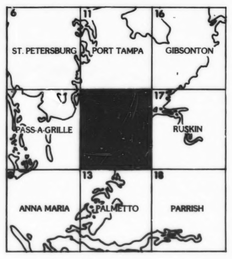

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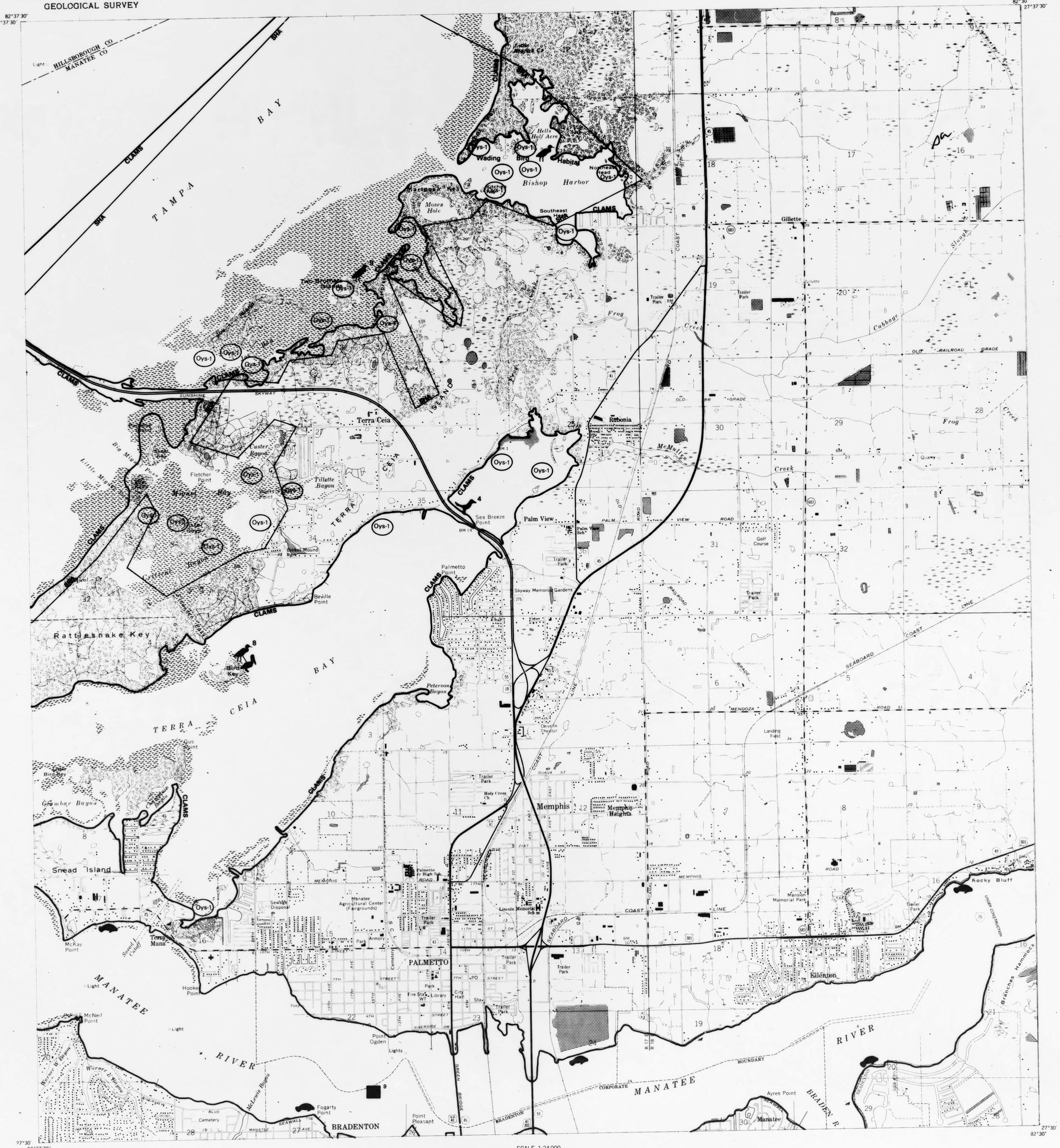
I 49.89/2:85(15) map A13

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF FLORIDA

PALMETTO QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

82°37'30" 27°37'30"



SCALE 1:24 000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER

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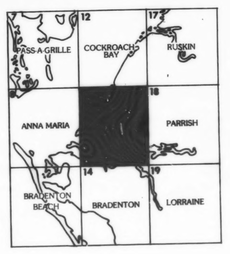
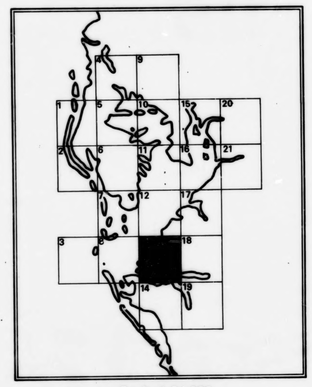


MAP A13

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

PALMETTO



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1984

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	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					E	●	●	●				2
2	Spotted Seatrout	E	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					E	●	●					2
3	Snook	C	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					E	●	●					2
4	Sheepshead	C	● ● ● ● ● ● ● ● ● ● ● ●	C	●					●		C-E			●		●		1
5	Southern Flounder	C	● ● ● ● ● ● ● ● ● ● ● ●	C-E	●					●		C-E	●		●		●		2
6	Florida Pompano	CS	● ● ● ● ● ● ● ● ● ● ● ●	C-E								C-E						●	3
7	Striped Mullet	CS	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					C-E	●	●	●			●	3
9	Spanish Sardine	C	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					C-E	●	●	●			●	3
10	Black Drum	C	● ● ● ● ● ● ● ● ● ● ● ●	E	●	●	●					E	●	●	●				1
	REEF FISHES																		
11	Red Grouper	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS-C	●					●	●	CS				●	●		2
12	Jewfish	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS-C	●					●	●	CS-C				●	●		2
13	Gag Grouper	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS-C	●					●	●	CS-C				●	●		2
14	Scamp	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS	●					●	●	CS				●	●		2
15	Red Snapper	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS-C	●					●	●	CS-C				●	●		2
16	Mangrove Snapper	CS	● ● ● ● ● ● ● ● ● ● ● ●	C-E	●	●				●	●	C-E				●	●		2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS	● ● ● ● ● ● ● ● ● ● ● ●	CS							●	CS-C				●	●		4
18	Spanish Mackerel	CS	● ● ● ● ● ● ● ● ● ● ● ●	CS							●	CS-C				●	●		4

*KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[2]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

WEST INDIAN MANATEE HABITAT

STATE MANATEE SANCTUARY

SEAGRASS BEDS

ARTIFICAL REEF*
(Permitted by Florida Dept. of Environmental Regulation)
Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

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I 49.84/2:85(15) map A 14

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF FLORIDA

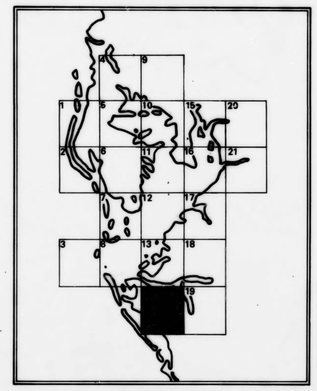
BRADENTON QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A14

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

BRADENTON



Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:
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B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

- Oys-1 — Public Oyster Bed
- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA[1]	MAJOR NURSERY HABITATS: Seagrass	Mangrove	Saltmarsh	Beach	Coral Reef	Artificial Reef	Open Water	AREA OF ADULT ABUNDANCE[1]	MAJOR ADULT HABITATS: Seagrass	Mangrove	Beach	Coral Reef	Artificial Reef	Open Water	MIGRATION TYPE[2]
	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C		E	●	●	●					E	●	●					2
2	Spotted Seatrout	E		E	●	●						E	●	●					2
3	Snook	C		E	●	●	●					E	●	●					2
4	Sheepshead	C		C	●							C-E			●		●		1
5	Southern Flounder	C		C-E	●					●		C-E	●			●			2
6	Florida Pompano	CS		C-E						●		C-E				●		●	3
7	Striped Mullet	CS		E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C		E	●	●	●					C-E	●					●	3
9	Spanish Sardine	C		E	●	●	●					C-E	●					●	2
10	Black Drum	C		E	●	●	●					E	●	●	●				1
	REEF FISHES																		
11	Red Grouper	CS		CS-C	●				●	●		CS				●	●		2
12	Jewfish	CS		CS-C	●				●	●		CS-C				●	●		2
13	Gag Grouper	CS		CS-C	●				●	●		CS-C				●	●		2
14	Scamp	CS		CS	●				●	●		CS				●	●		2
15	Red Snapper	CS		CS-C	●				●	●		CS-C				●	●		2
16	Mangrove Snapper	CS		C-E	●	●						C-E				●	●		2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS		CS							●	CS-C				●	●	●	4
18	Spanish Mackerel	CS		CS							●	CS-C				●	●	●	4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[2]MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

WEST INDIAN MANATEE HABITAT

STATE MANATEE SANCTUARY

SEAGRASS BEDS

ARTIFICAL REEF*
(Permitted by Florida Dept. of Environmental Regulation)
Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

SCALE 1:24000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER

THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC. TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OF PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION:

SHELLFISH HARVEST AREAS: Shellfish Harvest Area Maps. Dept. of Natural Resources. 1982.

PUBLIC & PRIVATE OYSTER BEDS: Cooperative Gulf of Mexico Estuarine Inventory and Study, Florida. McNulty, Lindall and Sykes. 1972.

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SCALLOP BEDS: Personal Communication. Mr. Bill Lyons Dept. of Natural Resources, Marine Research Laboratory, 1982.

FINFISH SPAWNING, NURSERY & HARVEST AREAS: Florida's Fishing Grounds. Moe. 1970.

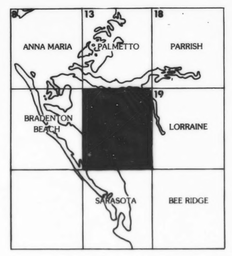
BIRD NESTING SITES: Florida Atlas of Breeding Sites for Herons and Their Allies 1976-78. Nesbitt, S.A., Ogden, J.C. Kale II, H.W., et al. U.S. Fish and Wildlife Service, 1982. Personal Communication, Maps and Data, Dr. H.W. Kale II. Florida Audubon Society, 1982.

MANATEE HABITAT: Boaters guide to Manatees, the gentle giants, Florida Marine Petrol, 1980.

SEAGRASS BEDS: Tampa Bay Seagrass Maps, 1:10,000 and 1:24,000 Scales, Mangrove Systems, Inc. 1980. National Wetlands Inventory Maps, 1:24,000 Scale, U.S. Fish and Wildlife Service, 1983.

ARTIFICAL REEFS: Computer Printout of Florida Artifical Reefs, U.S. Army Corps of Engineers, 1981. Recreational Use Reefs in Florida: Artifical and Natural, Florida Sea Grant Program, 1979.

FOR COMPLETE REFERENCE SEE MAP NARRATIVE



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I 49.89/2:85(15)map A15

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

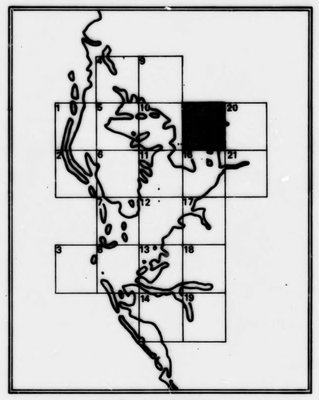
TAMPA QUADRANGLE
FLORIDA – HILLSBOROUGH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A15

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

TAMPA



Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:
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B. WATER RESOURCES

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Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

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There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
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- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J F M A M J J A S O N D	NURSERY AREA[2]	MAJOR NURSERY HABITATS: Seagrass	Mangrove	Saltmarsh	Beach	Coral Head	Artificial Reef	Open Water	AREA OF ADULT ABUNDANCE[1]	MAJOR ADULT HABITATS: Seagrass	Mangrove	Beach	Coral Head	Artificial Reef	Open Water	MIGRATION TYPE[3]
	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C		E	●	●	●					E	●	●	●				2
2	Spotted Seatrout	E		E	●	●	●					E	●	●					2
3	Snook	C		E	●	●	●					E	●	●					2
4	Sheepshead	C		C	●							C-E			●		●		1
5	Southern Flounder	C		C-E	●			●				C-E	●		●				2
6	Florida Pompano	CS		C-E				●				C-E			●			●	3
7	Striped Mullet	CS		E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C		E	●	●	●					C-E	●		●				3
9	Spanish Sardine	C		E	●	●	●					C-E	●		●			●	3
10	Black Drum	C		E	●	●	●					E	●	●	●				1
	REEF FISHES																		
11	Red Grouper	CS		CS-C	●						●	CS				●	●		2
12	Jewfish	CS		CS-C	●						●	CS-C				●	●		2
13	Gag Grouper	CS		CS-C	●						●	CS-C				●	●		2
14	Scamp	CS		CS	●						●	CS				●	●		2
15	Red Snapper	CS		CS-C	●						●	CS-C				●	●		2
16	Mangrove Snapper	CS		C-E	●	●						C-E				●	●		2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS		CS								CS-C				●	●	●	4
18	Spanish Mackerel	CS		CS								CS-C				●	●	●	4

[1]KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[3]MIGRATION TYPE:
1 — Residentially Restricted
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3 — Restricted Migration
4 — Extensive Migration

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- Shorebird
- Wading Bird
- Brown Pelican

- WEST INDIAN MANATEE HABITAT
- STATE MANATEE SANCTUARY
- SEAGRASS BEDS
- ARTIFICAL REEF* (Permitted by Florida Dept. of Environmental Regulation)
  Numbers next to reefs refer to composition data in narrative

*Symbols appearing with numbers are described more fully in the narrative.

SCALE 1:24000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

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Selected areas on this U.S.G.S. base map updated using information extracted from aerial photographs. This information not field checked.

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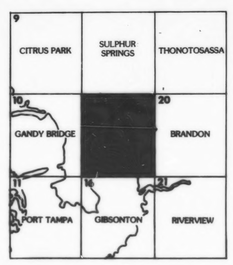

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I 49.89/2:85 (15) map 16

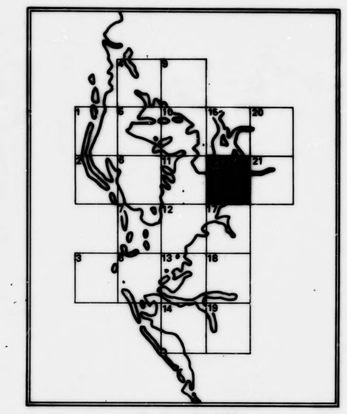
GIBSONTON QUADRANGLE
FLORIDA – HILLSBOROUGH CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAPA16

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

GIBSONTON



Scale 1:24,000

1984

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	ESTUARINE DEPENDENT FISHES																		
1	Red Drum	C	F M A M J J A S O N D	E	●	●	●					E	●	●	●				2
2	Spotted Seatrout	E	F M A M J J A S O N D	E	●	●	●					E	●	●					2
3	Snook	C	F M A M J J A S O N D	E	●	●	●					E	●	●					2
4	Sheepshead	C	F M A M J J A S O N D	C	●							C-E				●		●	1
5	Southern Flounder	C	F M A M J J A S O N D	C-E	●			●				C-E	●						2
6	Florida Pompano	CS	F M A M J J A S O N D	C-E				●				C-E		●				●	3
7	Striped Mullet	CS	F M A M J J A S O N D	E	●	●	●					E	●	●	●				3
8	Gulf Menhaden	C	F M A M J J A S O N D	E	●	●	●					C-E	●		●			●	3
9	Spanish Sardine	C	F M A M J J A S O N D	E	●	●	●					C-E	●		●			●	3
10	Black Drum	C	F M A M J J A S O N D	E	●	●	●					E	●	●	●				1
	REEF FISHES																		
11	Red Grouper	CS	F M A M J J A S O N D	CS-C	●					●	●	CS				●	●		2
12	Jewfish	CS	F M A M J J A S O N D	CS-C	●					●	●	CS-C				●	●		2
13	Gag Grouper	CS	F M A M J J A S O N D	CS-C	●					●	●	CS-C				●	●		2
14	Scamp	CS	F M A M J J A S O N D	CS	●					●	●	CS				●	●		2
15	Red Snapper	CS	F M A M J J A S O N D	CS-C	●					●	●	CS-C				●	●		2
16	Mangrove Snapper	CS	F M A M J J A S O N D	C-E	●	●						C-E				●	●		2
	COASTAL PELAGIC FISHES																		
17	King Mackerel	OCS	F M A M J J A S O N D	CS							●	CS-C					●	●	4
18	Spanish Mackerel	CS	F M A M J J A S O N D	CS							●	CS-C					●	●	4

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STATE MANATEE SANCTUARY

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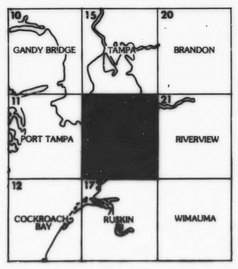
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER



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Selected areas on this U.S.G.S. base map were updated by interpretation collected from aerial photography. This information not field checked.

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ORIGINAL

I 49.07/2:85(15)/map A17

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

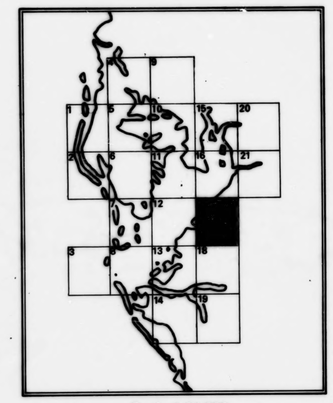
RUSKIN QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAP A17

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

RUSKIN



Scale 1:24,000

1984

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B. WATER RESOURCES

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Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlay material compiled in 1984 from latest available data obtained from Federal, State and Local government agencies and other sources.

There are no maps A19, A20, A21 due to a lack of data.

LEGEND

SHELLFISH HARVEST AREA
(Florida Dept. of Natural Resources)

- SHA — Shellfish Harvest Approved
- SHCA — Shellfish Harvest Conditionally Approved

NOTE: Due to Dept. of Natural Resources (DNR) water quality standards all other estuarine areas are prohibited or unclassified as to shellfish harvest status and are officially unapproved. For further info. on status of harvest areas contact DNR - Shellfish Environmental Assessment Section.

- Oys-1 — Public Oyster Bed
- Oys-2 — Private Oyster Bed (Lease)
- CLAMS — Clam Bed

FINFISH SPAWNING, NURSERY AND HARVEST AREAS
(Recreational Hook and Line Fishing)

SPECIES #	FINFISH CATEGORY / Common Name	SPAWNING LOCATION[1]	SPAWNING SEASON J M M J S N	NURSERY AREA	MAJOR NURSERY HABITATS: Seagrass, Mangrove, Saltmarsh, Beach, Coral Reef, Open Water	AREA OF ADULT ABUNDANCE[2]	MAJOR ADULT HABITATS: Seagrass, Mangrove, Beach, Coral Reef, Artificial Reef, Open Water	MIGRATION TYPE[3]
ESTUARINE DEPENDENT FISHES								
1	Red Drum	C		E	● ● ●	E	● ●	2
2	Spotted Seatrout	E		E	● ● ●	E	● ●	2
3	Snook	C		E	● ● ●	E	● ●	2
4	Sheepshead	C		C	●	C-E	●	1
5	Southern Flounder	C		C-E	● ●	C-E	● ●	2
6	Florida Pompano	CS		C-E	●	C-E	● ●	3
7	Striped Mullet	CS		E	● ● ●	E	● ● ●	3
8	Gulf Menhaden	C		E	● ● ●	C-E	● ●	3
9	Spanish Sardine	C		E	● ● ●	C-E	● ●	3
10	Black Drum	C		E	● ● ●	E	● ● ●	1
REEF FISHES								
11	Red Grouper	CS		CS-C	● ●	CS	● ● ●	2
12	Jewfish	CS		CS-C	● ●	CS-C	● ●	2
13	Gag Grouper	CS		CS-C	● ●	CS-C	● ●	2
14	Scamp	CS		CS	● ●	CS	● ●	2
15	Red Snapper	CS		CS-C	● ●	CS-C	● ●	2
16	Mangrove Snapper	CS		C-E	● ●	C-E	● ●	2
COASTAL PELAGIC FISHES								
17	King Mackeral	OCS		CS		CS-C	● ● ●	4
18	Spanish Mackeral	CS		CS		CS-C	● ● ●	4

[1] KEY:
E — Estuarine
C — Coastal
CS — Continental Shelf
OCS — Outer Continental Shelf

[3] MIGRATION TYPE:
1 — Residentially Restricted
2 — Random Residential Range
3 — Restricted Migration
4 — Extensive Migration

COLONIAL BIRD NESTING SITE*
Number appearing with symbol indicates colony sites. Colony sites and species - composition data are included in the narrative.

- Shorebird
- Wading Bird
- Brown Pelican

WEST INDIAN MANATEE HABITAT

STATE MANATEE SANCTUARY

SEAGRASS BEDS

ARTIFICAL REEF*
(Permitted by Florida Dept. of Environmental Regulation)
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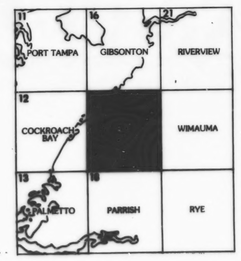
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER



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ORIGINAL

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STATE OF FLORIDA

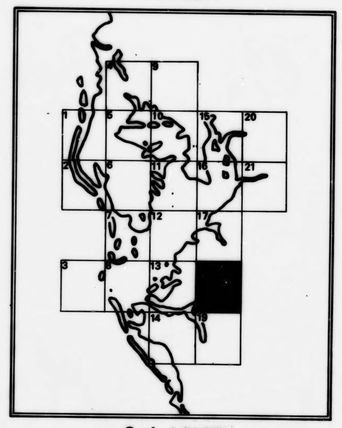
PARRISH QUADRANGLE
FLORIDA – MANATEE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

MAPA18

TAMPA BAY ENVIRONMENTAL ATLAS

BIOLOGICAL RESOURCES

PARRISH



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4	Sheepshead	C		C	●							C-E			●		●		1
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9	Spanish Sardine	C		E	●	●	●					C-E	●		●			●	3
10	Black Drum	C		E	●	●	●					E	●	●	●				1
	REEF FISHES																		
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12	Jewfish	CS		CS-C	●					●	●	CS-C				●	●		2
13	Gag Grouper	CS		CS-C	●					●	●	CS-C				●	●		2
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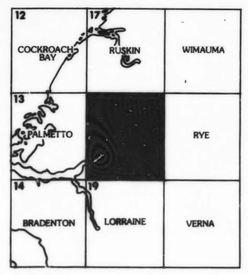

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